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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,275	09/23/2003	E. Seth Harbuck	PCRC 8472 U1	6566
1688	7590	03/09/2006	EXAMINER	
POLSTER, LIEDER, WOODRUFF & LUCCHESI 12412 POWERSCOURT DRIVE SUITE 200 ST. LOUIS, MO 63131-3615			KOCZO JR, MICHAEL	
			ART UNIT	PAPER NUMBER
			3746	
DATE MAILED: 03/09/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/669,275	Applicant(s) HARBUCK, E. SETH	
	Examiner Michael Koczo, Jr.	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Numeral 34 (page 4, line 6 from the bottom).

Numeral 3 (page 4, line 4 from the bottom).

Numeral 28 (page 6, line 5).

The drawings are furthermore objected to because of the following reasons:

The reference characters are not uniformly drawn.

Hatching lines must be equally spaced.

It is not clear what structure is identified by the lead line of numeral 22 because it is obscured by the hatching line.

The structure of check valve 22, and the structural relationship between the piston 8, piston end cap 7 and the machine ball 17 cannot be determined because of the poor drawing figures.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

There is no mention of line 2-2 of figure 1 in the brief description of the drawings.

Uniform terminology must be maintained throughout the specification and claims. For example, page 4, line 6 from the bottom recites a "check valve assembly 22", whereas line 2 from the bottom recites a "check valve 22". Page 5, line 6 recites a "first housing end cap 2", whereas line 10 recites a "first housing end 2". In line 7 from the bottom, "first housing end cap 1" should read --first housing end cap 2--.

On page 5, lines 2 to 4 from the bottom recite "A threaded portion 23 on the first housing end cap 2 allows for installation of the fuel pump A onto various types of mounting configurations." It is not seen how this is possible since the filter housing is attached to threaded portion 23.

This question also applies to page 6, lines 1 to 4 since it is not seen how various fittings can be attached to pipe thread 24 because of the filter housing.

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Regarding page 6, line 6 from the bottom, it is not clear what is the “axial opening” which extends through the fuel pump since it is not shown in the drawings and described in detail in the specification.

On page 6, bottom line, “axially” should read --axial--.

Appropriate correction is required.

Claim Objections

Claim 29 is objected to because of the following informalities: in line 2, “is” should be deleted to improve the claim syntax. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 to 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Due to the poor drawings and lack of a detailed description of the check valve 22, piston 8, machine ball 17 and piston end cap 7, it is not possible to ascertain the structure and manner of operation of the pump. For example, what structure forms the valve seat of machine ball 17 and in which direction does it

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prevent flow? How does fluid flow past the piston? These deficiencies would impose an undue burden on one of ordinary skill in the art to make and use the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 to 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 to 30 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

There is no structural and functional relationship between the structure as recited in claims 1, 5, 6, 7, 25, 27, 28 and 30.

Claim 22 conflicts with claim 21.

Claims 25 to 29 purport to be process of manufacturing claims, but do not recite any meaningful method steps. All components of an article are “manufactured” and “assembled”. It is therefore not clear how these claims differ in scope from the apparatus claims.

In claim 29, there is no antecedent basis for “the second housing end cap”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 to 4, 25, 26 and 30, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (US 3,000,321) in view of Hultman (US 4,787,823). Parker discloses a fuel pump having an enclosure 20, a piston 64, a fuel filter 60, a coil assembly 82 and end caps 16 and 18. However, Parker does not disclose a microprocessor for sending impulses to the coil assembly. Hultman discloses a fuel pump which may use microprocessor control for sending impulses to the coil assembly (col. 12, para. 1). Microprocessor control facilitates modification of the operation of the pump in response to conditions via software modification. In view of this teaching, it would have been obvious to provide the pump of Parker with a microprocessor for sending impulses to the coil assembly. It is noted that the claims are replete with recitations of the intended use and the desired manner of operation of the pump, such as the desired coil frequency, fuel pump pressure, flow rate, impulse voltage and current, and ambient temperature. These recitations are not deemed structurally limiting. Furthermore, the pump of Parker is deemed inherently capable of operating with the recited coil frequency, impulse voltage and current, and ambient temperature, to produce the recited fuel pump pressure and flow rate in view of the structural similarity to the disclosed invention.

Claims 1 to 6, 25 to 8 and 30, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenke (US 2004/0179960) in view of Parker and Hultman. Lenke discloses a fuel pump having an enclosure, a piston 115, a coil assembly 112, a machine ball 130 and end caps 120. However, Lenke does not disclose a microprocessor for sending impulses to the coil assembly, and a fuel filter. Parker discloses a fuel filter 60 upstream of the pumping chamber.

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Hultman discloses a fuel pump which may use microprocessor control for sending impulses to the coil assembly (col. 12, para. 1). Microprocessor control facilitates modification of the operation of the pump in response to conditions via software modification. In view of these teachings, it would have been obvious to provide the pump of Lenke with a fuel filter and with a microprocessor for sending impulses to the coil assembly. It is noted that the claims are replete with recitations of the intended use and the desired manner of operation of the pump, such as the desired coil frequency, fuel pump pressure, flow rate, impulse voltage and current, and ambient temperature. These recitations are not deemed structurally limiting. Furthermore, the pump of Lenke is deemed inherently capable of operating with the recited coil frequency, impulse voltage and current, and ambient temperature, to produce the recited fuel pump pressure and flow rate in view of the structural similarity to the disclosed invention.

Claim 29, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenke in view of Parker and Hultman, as applied to claim 28 above, and further in view of Thomas (US 5,073,095). Thomas shows a wiring raceway for wiring 56 bored into a housing end cap. In view of this teaching, it would have been obvious to provide the pump of Lenke, as previously modified, with a wiring raceway bored into a housing end cap.

Allowable Subject Matter

Claims 7 to 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st and 2nd paragraphs, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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Conclusion

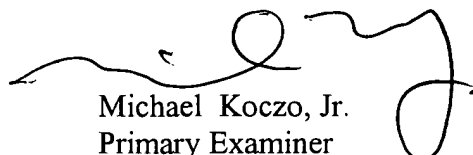
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry relating to patent applications in general should be directed to the Patent Assistance Center at 1-800-786-9199.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Koczo, Jr. whose telephone number is 571-272-4830. The examiner can normally be reached on M-Th; 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached at 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Koczo, Jr.
Primary Examiner
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